National TB Control Programme

Enhancing Quality of Care: MDR-TB

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Definition of MDR-TB

- MDR-TB is a laboratory diagnosis of resistance to isoniazid (INH) and Rifampicin with or without resistance to other anti-tuberculosis drugs. These two are the most important first-line tuberculosis drugs.

Prevention of MDR-TB

- Early detection and active treatment of tuberculosis with the aim to cure the disease the first time round.
- Reduce treatment interruption rate to below 5%

Public Health Importance of MDR-TB

- **Increase in MDR-TB cases is an indication of a poor performing TBCP.**
- **Extremely difficult and costly to treat**
- **Poor outcomes in face of rising HIV epidemic, questions of adherence to both TB/MDR –TB and HIV and AIDS regimens**
- **MDR-TB is a man-made disease.**

Adherence to MDR-TB treatment in South Africa

- Review of the data in 2001 from the Eastern Cape revealed that up to 35% of patients who started treatment for MDR did not finish
- This problem is fueling more drug-resistant strains of TB
- Problem is multifactorial (provider, patient, health services, economics) but discussions often focus only on patient-level issues

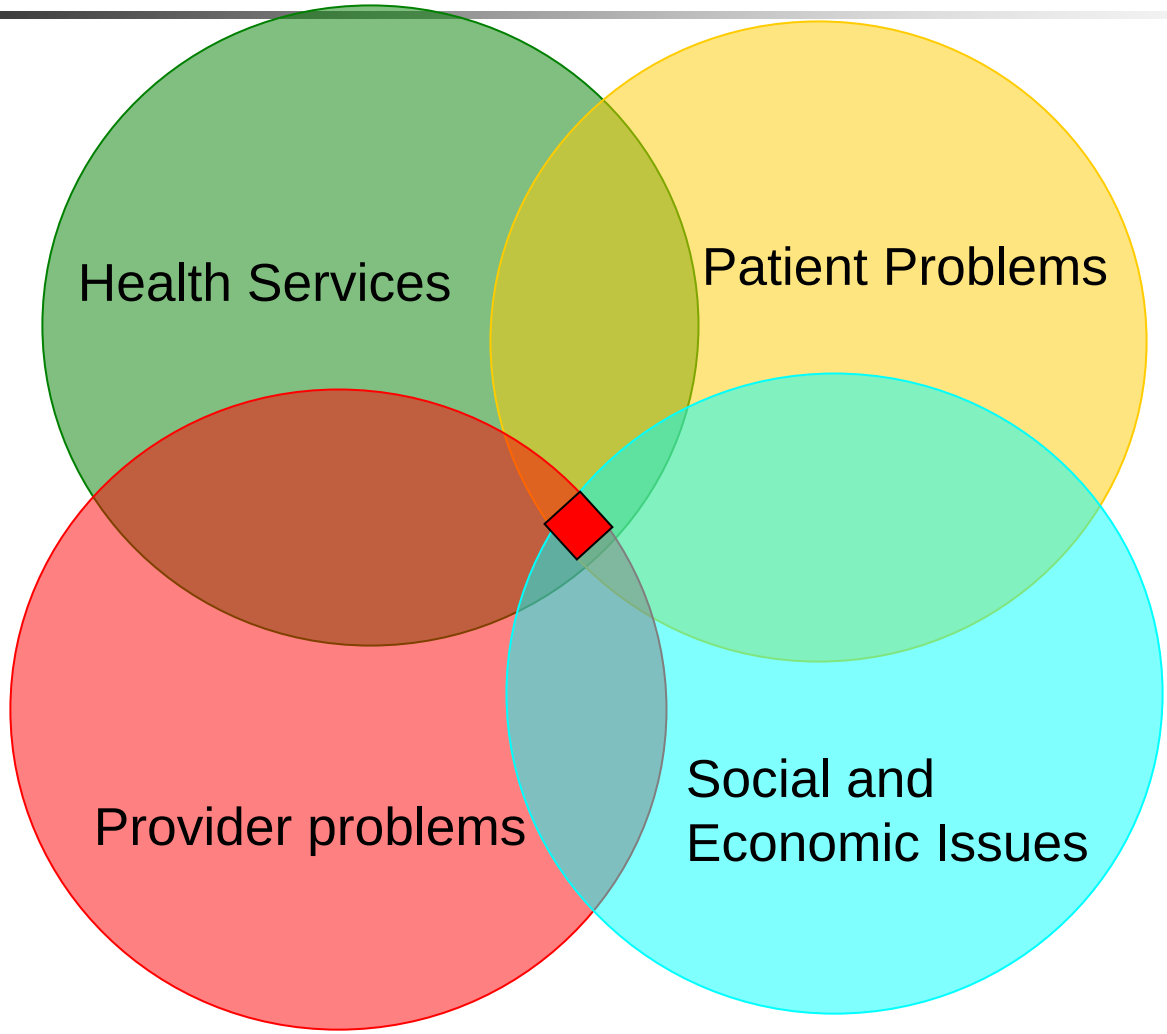
Patient Characteristics that Can Predict Non-adherence

- Homelessness
- Substance Abuse
- History of poor adherence
- Emotional disturbance
- Behavioral problems
- Forgetfulness
- Other med problems
- Dissatisfaction with schedule
- Lack of social support
- Illiteracy
- Undocumented person
- Migrant worker
- Minority status (US)

Provider-services Characteristics that could Predict Non-adherence

- Provider attitudes
- Poor nursing care
- Poorly delivered DOTS
- Lack of privacy or confidentiality
- Long waiting times
- Inconvenient clinic hours
- Clinic access (distant)

Interlocking Web of Adherence



Risk factors for development of MDR-TB

- Previously ***unsuccessful TB treatment***.
- ***Interruption*** of TB treatment
- Inappropriate TB treatment ***regimen*****.**
- Inappropriate TB treatment ***period***
- Previous TB ***treatment in a hospital***
- **High TB prevalence**.
- HIV+ is *not an independent risk factor*

TB/MDR-TB in Republic of South Africa

- TB incidence 599/100 000
- TB burden 279260
- Cure rate 55.6%
- **Default rate 11.5%**

- First MDR TB cases detected in 1985
- National survey 2001-2002
- Resistance in new patients 1.0 - 2.6%
- Resistance in retreated patients is 4.0 – 13.9%

- Roughly 2,500 cases treated annually
- Estimated 6,000 cases of MDR TB annually

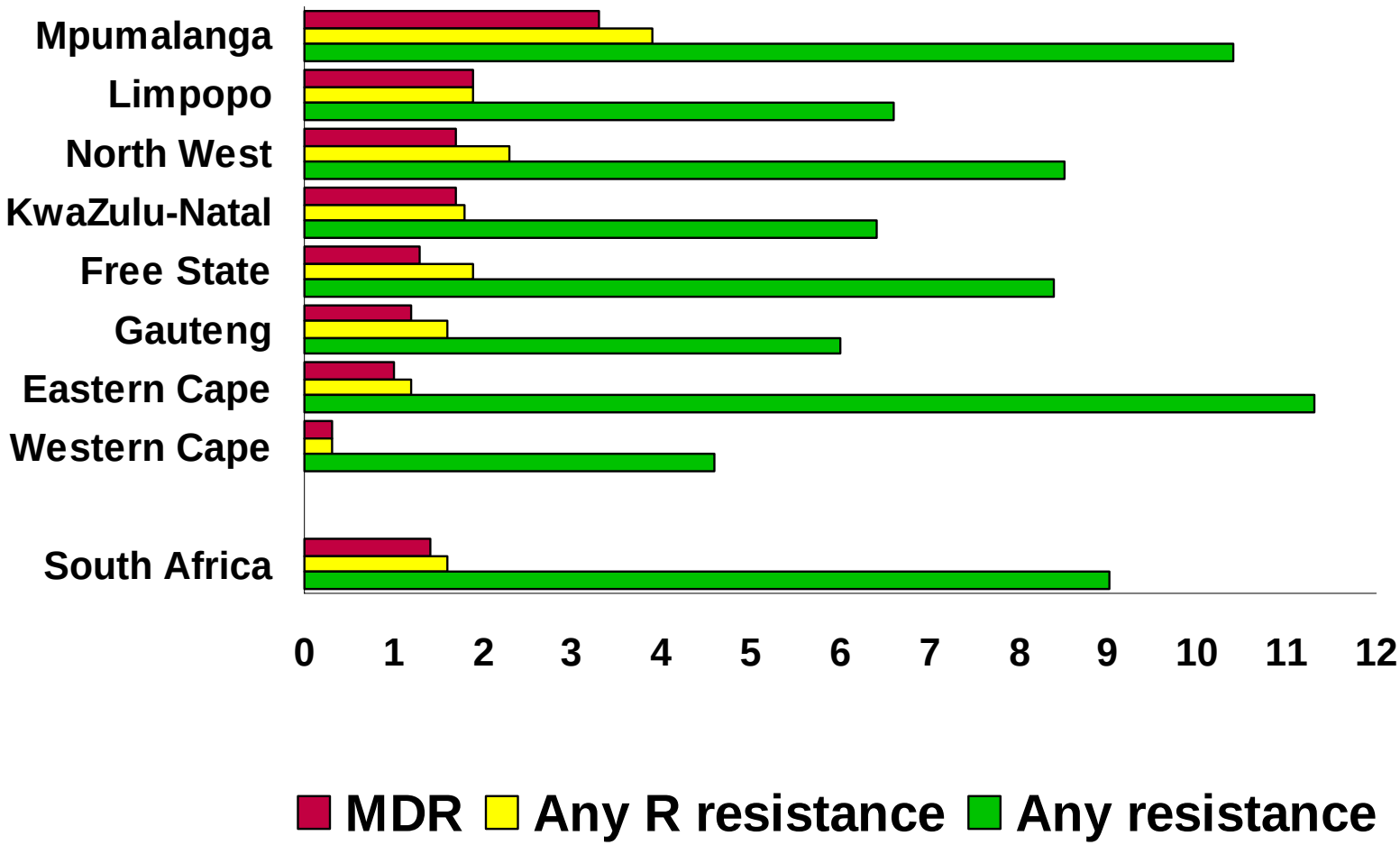
Response to MDR TB in S Africa

- MDR TB treatment as NTCP policy in 2001
  - Standardised regimen
  - Limited use of 2nd-line drugs
- One MDR TB treatment centre per province
- Restricted use of 2nd-line drugs
- Hospitalisation until conversion
- Dedicated discharge network
- Monitoring and evaluation through electronic register

Estimated MDR-TB burden

Province	Worst	Best
KZN	2 561	1 356
EC	2 181	1 190
Gauteng	1 239	673
Mpum	928	496
Limpopo	779	426
WC	696	382
NW	511	278
FS	281	195
SA	**9 727**	**5 196**

Drug Resistance in new patients



Drug resistance in re-treatment patients

MDR-TB treatment

- Difficult and expensive to treat.
- Intensive phase of 4 months, continuation phase 12 months or more
- Second-line TB drugs cause more side effects.
- Less effective: Only 50% cure rate.

- **Cost of MDR-TB treatment** =

  +/- R30.000-00 / patient.

  (±R300 for 6 months-new TB patients)

MDR – TB HIV Co infection

- Link not fully understood but outbreaks due to prolonged hospitalisation have extremely high mortality rates (> 70%).
- High rate of adverse drug interactions (HAART and MDR-TB drugs) potentiate similar side effect profiles.
- Complexity of both treatments requires rigorous monitoring of toxicities

Continued

- Positive impact of HAART in a small Argentinean study reduced mortality to 31% compared to 91% not on HAART.
- Immune reconstitution syndrome and appropriate time to initiate HAART on co-infected patients both need extensive research

Additional factors regarding treatment of MDR-TB patients

- Counseling of patient and family is essential.
- Patients need emotional support
- Education on compliance and prevention.
- Assurance of continuation of support.

Thank you